Claims

1. A method of concentrating a gaseous substance, the method comprising the steps of:

isolating a trap in which an analyte to be concentrated has been absorbed from a carrier gas passed through the trap;

reducing the pressure within the trap to a first pressure

desorbing the analyte from the trap; and

diffusing the analyte released from the trap into an analyser operating at a second pressure lower than the first pressure.

2. A method according to claim 1, further comprising the step of passing the carrier gas and the analyte through the trap.

3. A method according to claim 2, wherein the carrier gas and the analyte are at a third pressure which is greater than the first pressure.

4. A method according to claim 1, further comprising the step of passing the carrier gas and the analyte through a selectively permeable membrane prior to passing them into the trap.

5. A method according to claim 1, further comprising the step of passing the analyte through a selectively permeable membrane after the desorbing step.

6. A method according to claim 1, further comprising the step of passing the analyte through a non-selective flow restrictor after the desorb step.

7. A method according to claim 1, further comprising the step of flushing the trap with a dry gas prior to reducing the pressure in the trap.

8. A method according to claim 1, wherein the desorption of the analyte is effected by raising the temperature of the trap.

9. A device for concentrating and analysing a carrier gas, the device comprising:

a trap in which an analyte can be retained;

means for desorbing the analyte from the trap;

a body into which the analyte passes from the trap;

a vacuum pump for reducing the pressure in the trap and/or in the body; and an analyser into which the concentrated analyte is passed for analysis.

10. A device according to claim 9, wherein the means for desorbing the analyte is a heater.

11. A device according to either claim 9 or claim 10, wherein the trap includes a valve means at its inlet, through which the carrier gas and analyte are passed.

12. A device according to claim 9, wherein the analyser is a mass spectrometer.

13. A device according to claim 9, further comprising an analyser valve between the body and the analyser.

14. A device according to claim 9, further comprising a pump valve between the body and the vacuum pump.

15. A device according to claim 9, further comprising a flow restrictor between the body and the analyser.

16. A device according to claim 15, wherein the flow restrictor is a selectively permeable membrane.